

FIG. 1

2/20

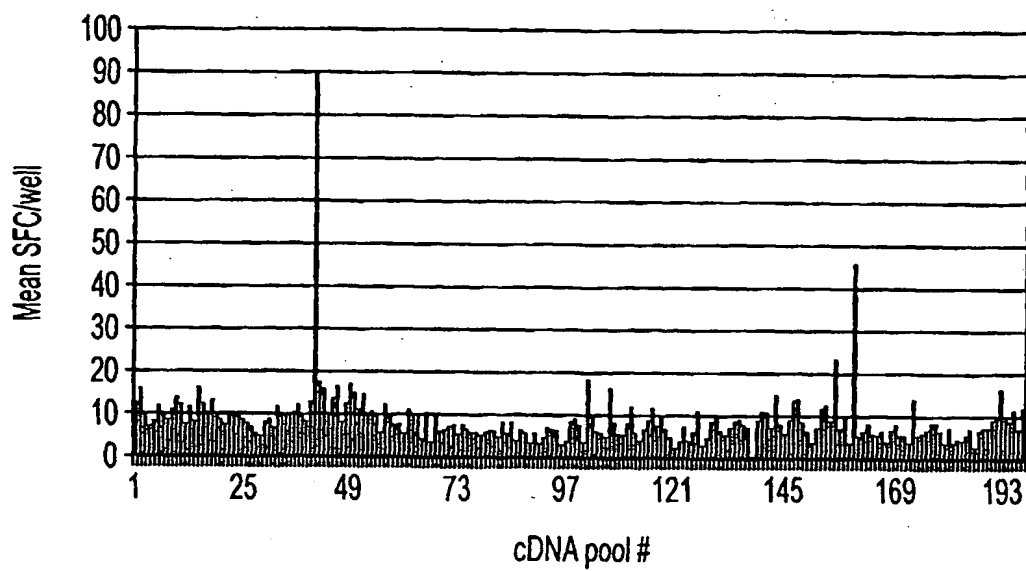


FIG. 2

3/20

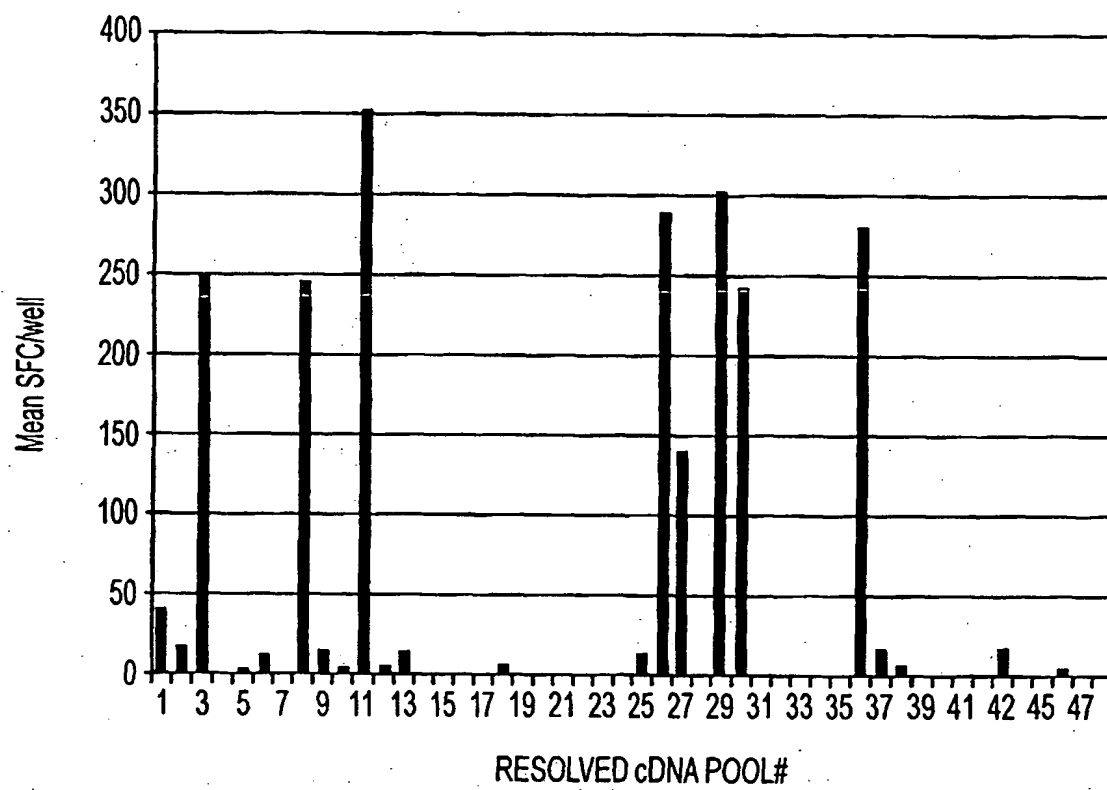


FIG. 3

4/20

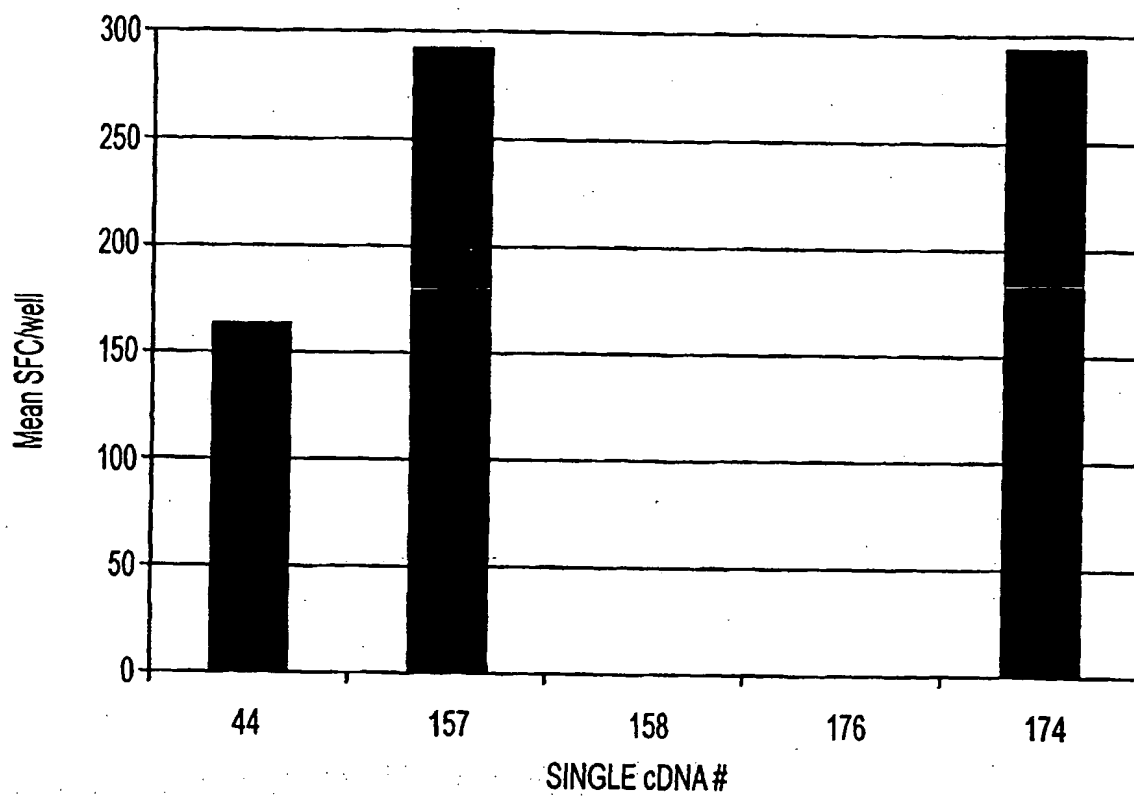


FIG. 4

5/20

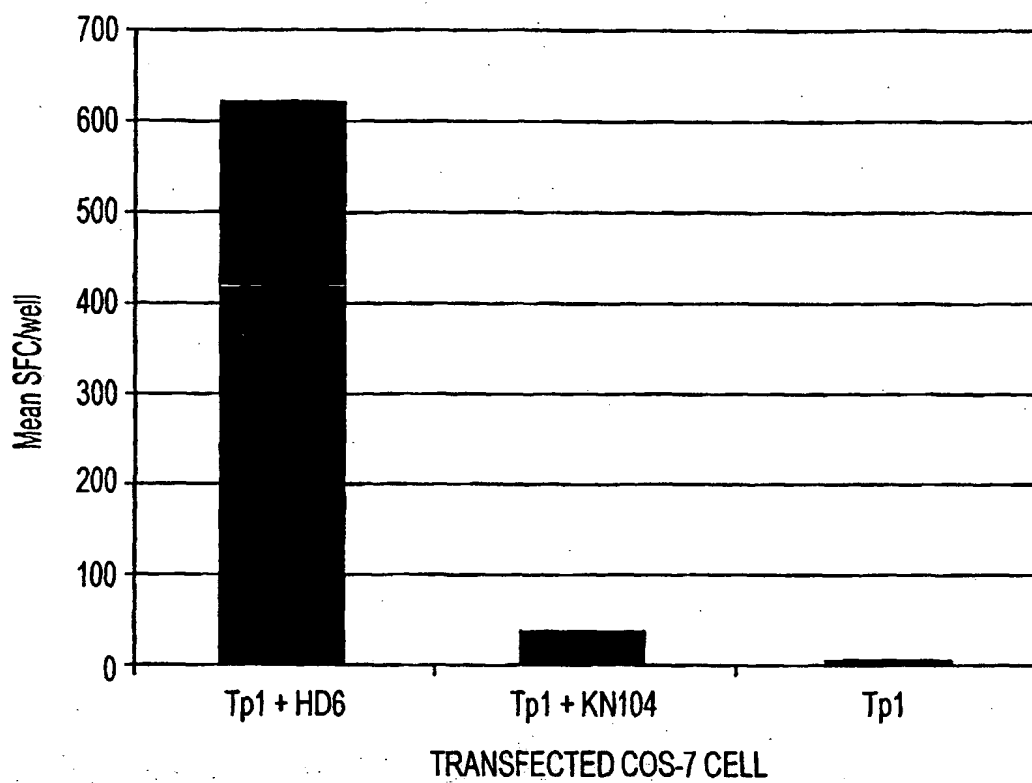


FIG. 5

6/20

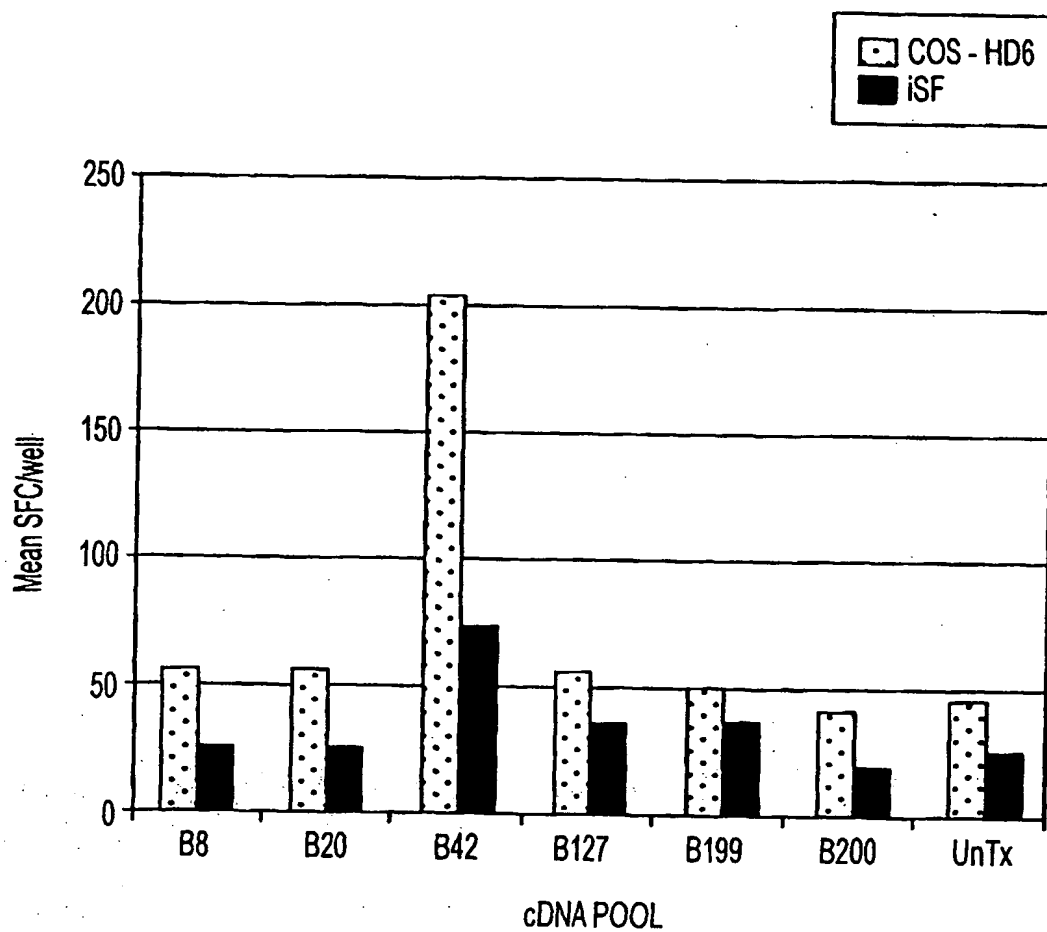


FIG. 6

7/20

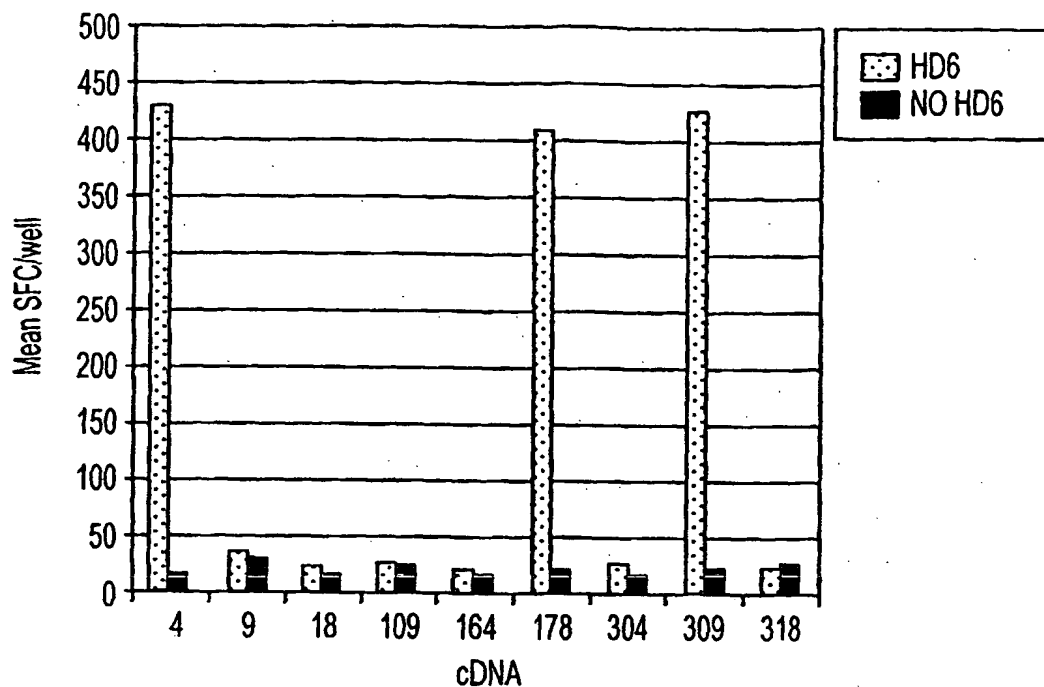


FIG. 7A

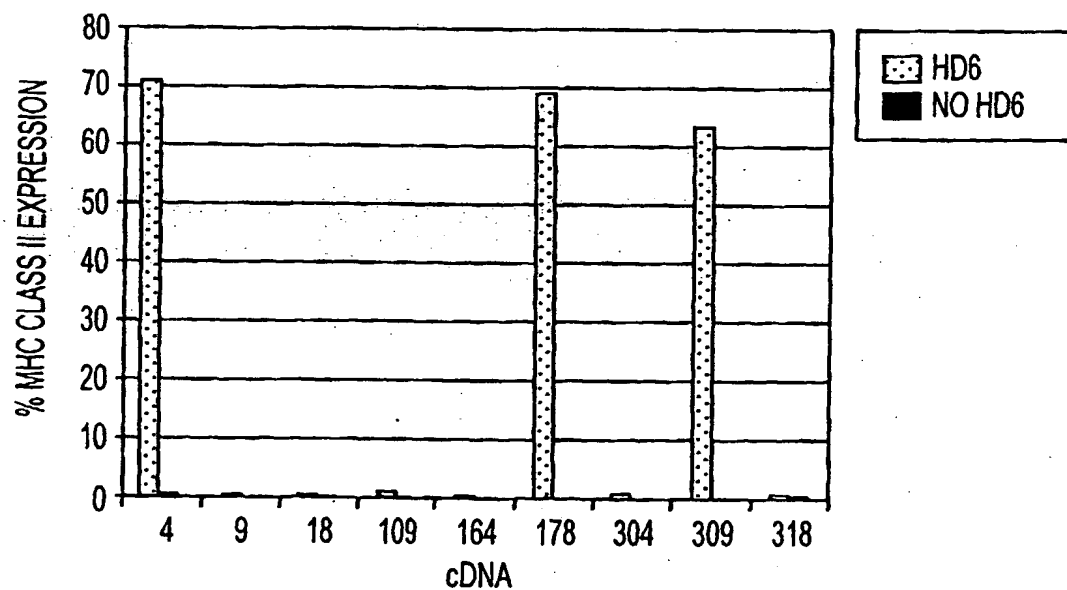


FIG. 7B

8/20

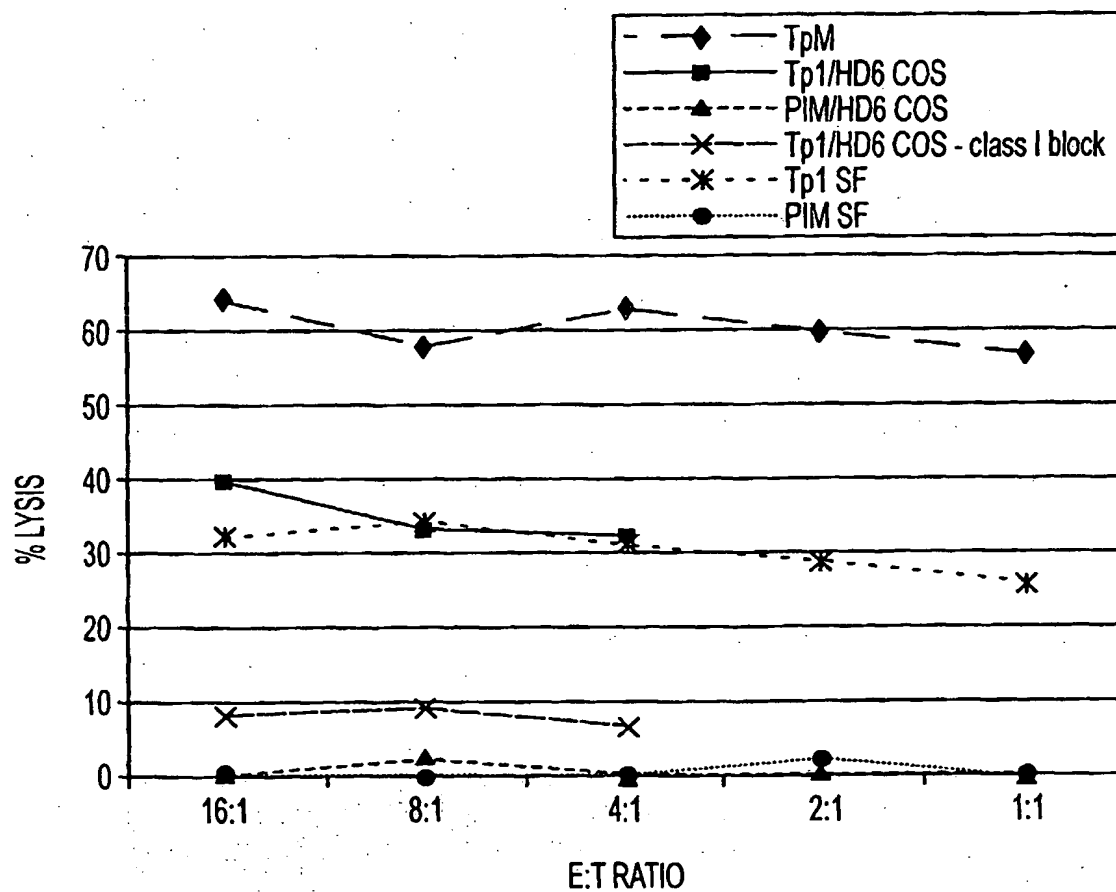


FIG. 8

9/20

	10	20	30	40	50	60	70
80							
Tp1 ORF	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del1	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del2	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del3	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del4	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del5	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEEELKP	PSALEDELKK	REESRKRME	EMQKEILEKK
Tp1 Del6	MRVKKVLLYT	LPVVGILLAG	SLIIFNFVRK	RPEKEE...	...	...	...
	90	100	110	120	130	140	150
Tp1 ORF	LEKREKEVD	EFAKHLKKPE	ERLPKIILTL	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
Tp1 Del1	LEKREKEVD	EFAKHLKKPE	ERLPKIILTL	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
Tp1 Del2	LEKREKEVD	EFAKHLKKPE	ERLPKIILTL	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
Tp1 Del3	LEKREKEVD	EFAKHLKKPE	ERLPKII...	DSGPPTVDPI	TYTSGVYMVA	VSKTTFTSDS	DLVDFTHLL
Tp1 Del4	LEKREKEVD	EFAKHLKKPE	ERLPKII...	...	...	...	...
Tp1 Del5	LEKREKEVD	EFAKHLKKPE	ERL...	...	...	...	...
Tp1 Del6	...	...	...	...	...	...	...
	170	180	190	200	210	220	230
Tp1 ORF	FGGKTYTIKP	IEATMATSIA	FAADPGFCYP	LLIPGPDSP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF
Tp1 Del1	FGGKTYTIKP	IEATMATSIA	FAADPGFCYP	LLIPGPDSP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF
Tp1 Del2	FGGKTYTIKP	IEATMATSIA	FAADPGFCYP	LLIPGPDSP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF
Tp1 Del3	...	...	...	...	...	...	...
Tp1 Del4	...	...	...	...	...	...	...
Tp1 Del5	...	...	...	...	...	...	...
Tp1 Del6	...	...	...	...	...	...	...
	250	260	270	280	290	300	310
Tp1 ORF	APPGVKPEAP	TPTPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTQVN	KFMIGSQEVK	LNITHEYEGV
Tp1 Del1	APPGVKPEAP	TPTPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTQVN	KFMIGSQEVK	LNITHEYEGV
Tp1 Del2	A.....	...	...	...	...	...	...
Tp1 Del3	...	...	...	...	...	...	...
Tp1 Del4	...	...	...	...	...	...	...
Tp1 Del5	...	...	...	...	...	...	...
Tp1 Del6	...	...	...	...	...	...	...
	330	340	350	360	370	380	390
Tp1 ORF	GSFTPTSFSI	GDLPQTGLPV	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIFY	KNQSRKYLNK	GNGNWEESKA
Tp1 Del1	GSFTPTSFSI	GDLPQTGLPV	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIFY	KNQSRKYLNK	GNGNWEESKA
Tp1 Del2	...	...	...	...	...	...	...
Tp1 Del3	...	...	...	...	...	...	...
Tp1 Del4	...	...	...	...	...	...	...
Tp1 Del5	...	...	...	...	...	...	...
Tp1 Del6	...	...	...	...	...	...	...
	410	420	430	440	450	460	470
Tp1 ORF	DSIFNDFVTV	NLSRRSDYYR	NGTGTSEIEQ	TLDNMVYVEP	DTPCAGWTTY	IHKLEEGGEG	GIEKPFQIRQ
Tp1 Del1	DSIFNDFVTV	NLSRRSDYYR	NGTGTSEIEQ	TLDNMVYVEP	DTPCAGWTTY	IHKLEEGGEG	GIEKPFQIRQ
Tp1 Del2	...	...	...	...	...	...	...
Tp1 Del3	...	...	...	...	...	...	...
Tp1 Del4	...	...	...	...	...	...	...
Tp1 Del5	...	...	...	...	...	...	...
Tp1 Del6	...	...	...	...	...	...	...
	490	500	510	520	530	540	550
Tp1 ORF	FPMGKVSIVN	VYGKNDPLS	YAPSIFSIVR	EDGIQIFYVR	AYSQYLLDSS	VNPQNLPOKL	NTL*.....
Tp1 Del1	FPMGKVSIVN	VYGKNDPLS	YAPSIFSIVR	EDGIQIFYVR	AYSQYLLDSS	VNPQNLPOKL	NTL*.....
Tp1 Del2	...	...	...	...	...	...	...
Tp1 Del3	...	...	...	...	...	...	...
Tp1 Del4	...	...	...	...	...	...	...
Tp1 Del5	...	...	...	...	...	...	...
Tp1 Del6	...	...	...	...	...	...	...

FIG. 9

10/20

	200	210	220	230	240
TP1.1	mPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF	NRLPKGVEIP
TP1.2					
TP1.3					
TP1.4	mPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF	NRLPKGVEIP
TP1.5					
TP1.6	mPGPDSKP	IFFKNDGDKF	LRCVGYPKVK	EEMLEMATKF	NRLPKGVEIP

	250	260	270	280	290
TP1.1	APPGVKPEAP	TPTPTTIT			
TP1.2	mP	TPTTITPS	VPPTIPTPIT	PSAPPTTPPT	GLNFNLTVQN
TP1.3					
TP1.4	APPGVKPEAP	TPTTITPSVP	PTIPTPITPS	APPTTPPTGL	NFNLTVQNKF
TP1.5	mP	TPTTITPSVP	PTIPTPITPS	APPTTPPTGL	NFNLTVQNKF
TP1.6	APPGVKPEAP	TPTTITPSVP	PTIPTPITPS	APPTTPPTGL	NFNLTVQNKF

	300	310	320	330	340
TP1.1					
TP1.2	KFMIGSQEVK	LNITHEYEGV	YEAHKYFI		
TP1.3		mGV	YEAHKYFIER	GSFTPTSFSI	GDLPQTGLPV
TP1.4	KFMIGSQEVK	LNITHEYEGV	YEAHKYFIER	GSFTPTSFSI	GDLPQTGLPV
TP1.5	KFMIGSQEVK	LNITHEYEGV	YEAHKYFIER	GSFTPTSFSI	GDLPQTGLPV
TP1.6	KFMIGSQEVK	LNITHEYEGV	YEAHKYFIER	GSFTPTSFSI	GDLPQTGLPV

	350	360	369
TP1.1			
TP1.2			
TP1.3	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIF
TP1.4			
TP1.5	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIF
TP1.6	NQTVDTIVVY	FHRVTMGEPV	GIPLIVLIF

FIG. 10

11/20

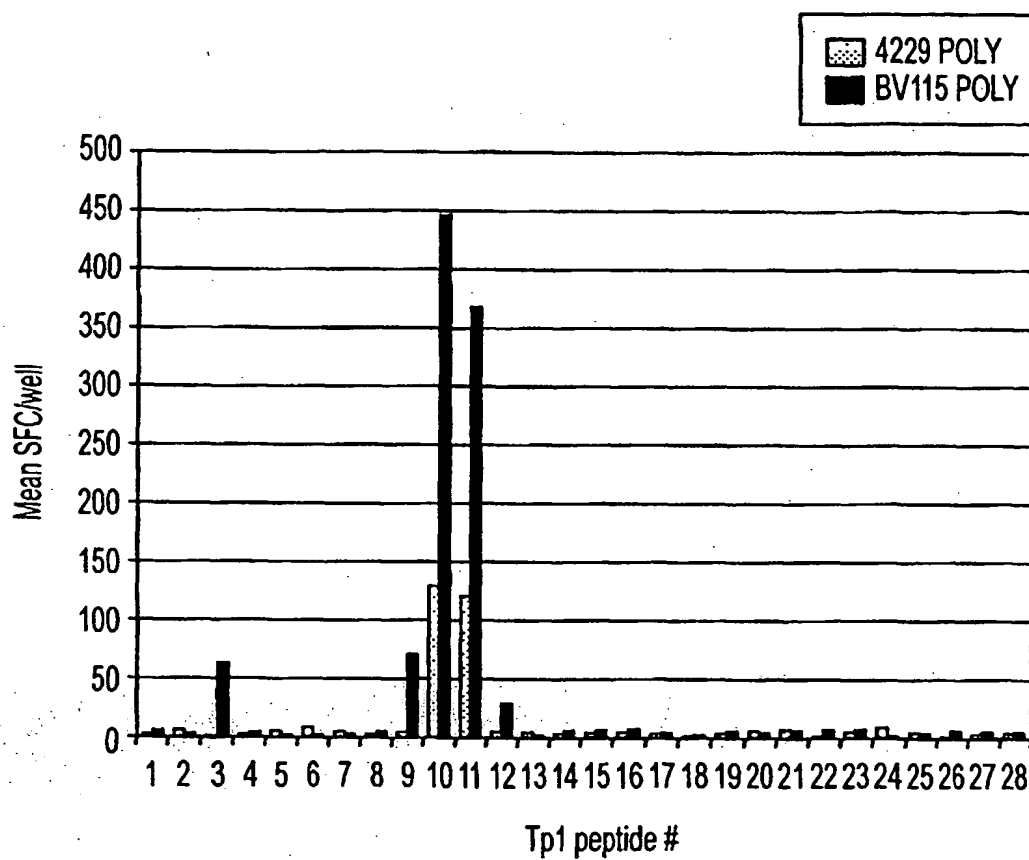


FIG. 11

12/20

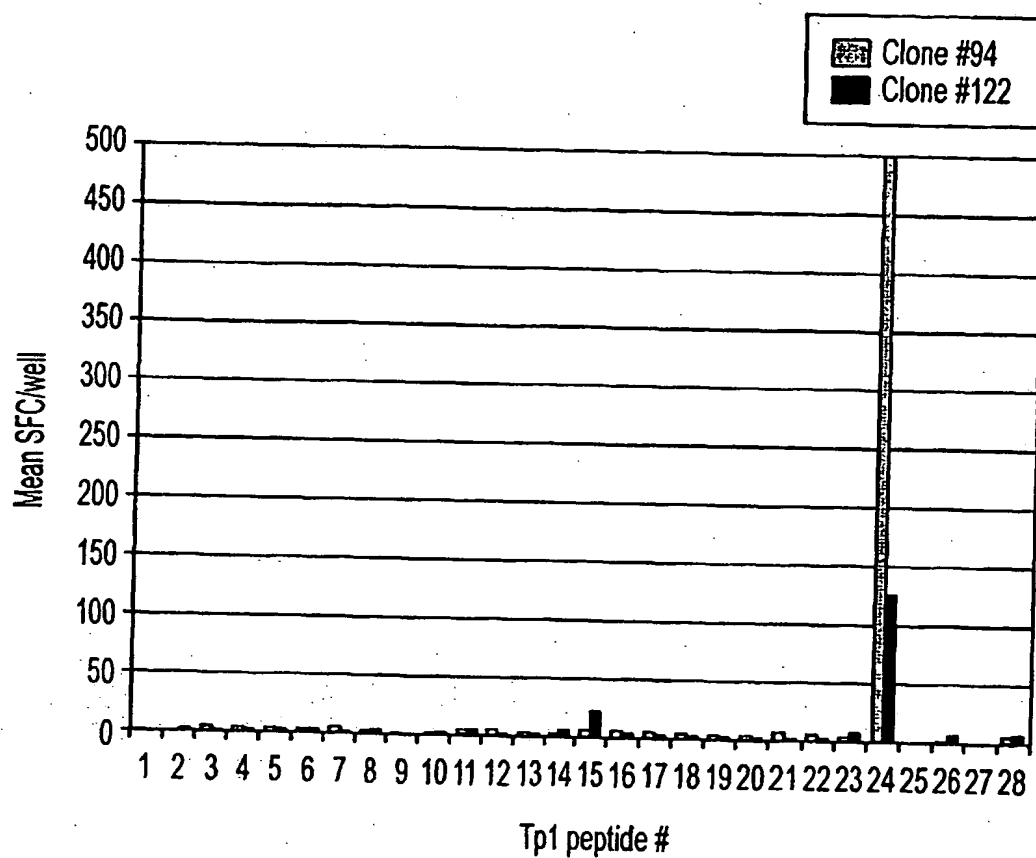


FIG. 12

13/20

	10	20	30	40	50	60
Tp1Muguga	MRVKKVLLYTLPVVGILLAGSLIIFNFVRKRPEKEEELKPPSALEDELKKREEESRKRME					
Tp1Marikebuni	MRVKKVLLYTLPVVGILLAGSLIIFNFVRKRPEKEEELKPPSALEDELKKREEESRKRME					
	10	20	30	40	50	60
Tp1Muguga	EMQKEILEKKLREGKKALEEELKREKEVVEFAKHLKKPEERLPKIILTLDSGFPTVDPI					
Tp1Marikebuni	EMQKEILEKKLREGKKALEEELKCEKEMVDEFEKHLKKPEERLPKIILTLDSGFPTVDPI					
	70	80	90	100	110	120
Tp1Muguga	TYTSGVYMAVSKTTFTSDSDLVDFHTLLGIKFLVTGVQFGGKTYTIKPIEATMATSIA					
Tp1Marikebuni	TYTSGVYMAVSKTTFTSDSDLVDFHTLLGIKFLVAGVQFGGKTYTIKPIEATMATSIA					
	130	140	150	160	170	180
Tp1Muguga	FAADPGFCYFLLIPGPDSKPIFFKNDGDKFLRCVGYPKVKEEMLEMATKFNRLPKGVEIP					
Tp1Marikebuni	FAADPGFCYFLLIPGPDSKPIFFKNDGDKFLRCVGYPKVKEEIIEMATKFNRLPKGVEIP					
	190	200	210	220	230	240
Tp1Muguga	APPGVKPEAPTPTPTTITPSVPPTIPTPTPSAPPTTPPTGLNFNLTVQNKFMIGSQEVK					
Tp1Marikebuni	APPGVKPEAPTPTPTTITPSVPPTIPTPTPSAPPTTPPTGLNFNLTVQNKFMVGSQEVK					
	250	260	270	280	290	300
Tp1Muguga	LNITHEYEGVYEAHKYFIERGSFTPTSF SIGDLPQTGLPVNQTVDTIVVYFHRVTMGEPV					
Tp1Marikebuni	LNITHEYDGVYEAHKYFIEKGRFTPTSF SIGADPQTGLPVNQTVDTIVVYFHRVTMGEPV					
	310	320	330	340	350	360
Tp1Muguga	GIPLIVLIFYKNQSRKYLNGNGNWEESKALLFREELDYLDSEIFNDFVTNLSRRSDYYR					
Tp1Marikebuni	GIPLIVLVIFYKNQSTKYLNGNGNWEESKALLFREELDFLDSEIFNDFVTNLSRRSDYYR					
	370	380	390	400	410	420
Tp1Muguga	NGTGTSEIEQTLDNMVYVEPDTPCAGWTTYIHKLEEGGEGGIEKPFQIRQLWFSKQKFDI					
Tp1Marikebuni	NGTGTSEIEKTLDNMVYVEPDTPCLGWTTYIHKLEEGGEGGIEKPFQIRQLWFSKQKFDI					
	430	440	450	460	470	480
Tp1Muguga	FPMGKVSIVNVYGKNDEPLSYAPSIFSVIREDGIQIFYVRAYSQYLLDSSVNPQNLPOKL					
Tp1Marikebuni	FPMGKVSIVNVYGKNDEPLSYAPSIFSVIREDGIQIFYVRAYSQYLLDSSVNPQNLPOKL					
	490	500	510	520	530	540
Tp1Muguga	NTL					
Tp1Marikebuni	TAE					

FIG. 13

14/20

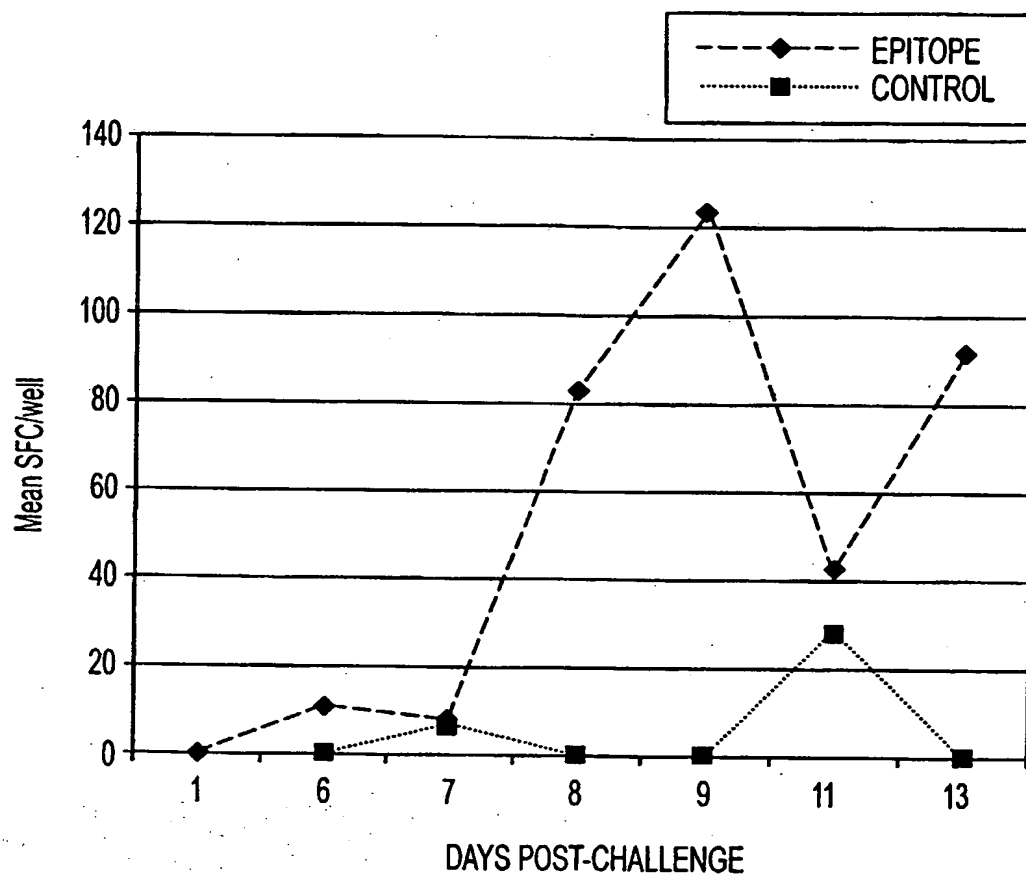


FIG. 14

15/20

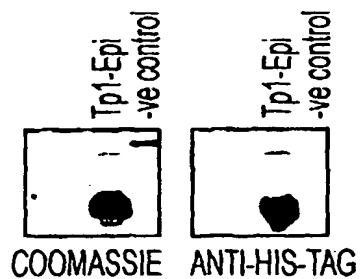


FIG. 15A

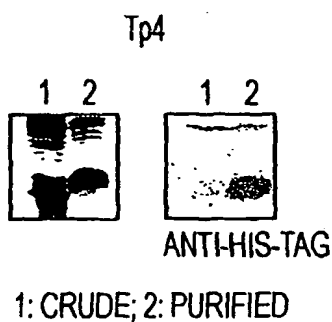
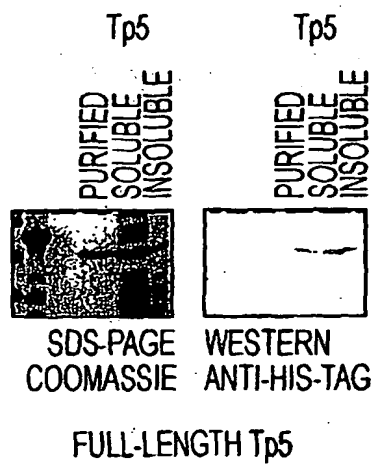


FIG. 15B



FULL-LENGTH Tp5

FIG. 15C

16/20

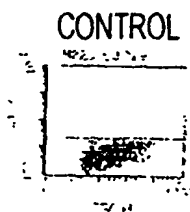


FIG. 16Aa

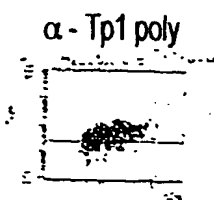


FIG. 16Ab

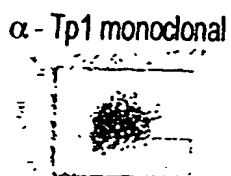


FIG. 16Ac

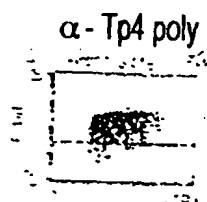


FIG. 16Ad

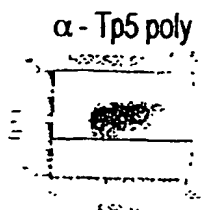


FIG. 16Ae

ANTIBODY	% OF T. PARVA INFECTED CELLS STAINED
Anti-Tp1 polyclonal Ab	78
Anti-Tp1 monoclonal Ab	85.96
Anti-Tp4 polyclonal Ab	92.52
Anti-Tp5 polyclonal Ab	96.04
Control	0.32

FIG. 16B

17/20

Tp1	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
Kakuzi521	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
Nyairoil02	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
Nyairoil17	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
Kakuzi521	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
Buffalo7344c1	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
KillifKL2	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
D409TpMariakani	MATSI	AFAAD	PGICV	FLLI	PAP	--	KPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV
KillifBR305	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
KillifKL1	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
Zambia2	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
Uganda	MATSI	AFAAD	PGFCY	FLLI	PGD	SKPI	FFK	NDG	DKF	LCV	GY	PKV	KEE	LEM	ATK	FNRL	PKG	VEI	PAP	PGV	K
Tp1	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVK	LN	ITHE	YEG	VYEA	HKYFI
Kakuzi521	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVK	LN	ITHE	YEG	VYEA	HKYFI
Nyairoil02	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVN	LN	ITHE	YEG	VYEA	HKYFI
Nyairoil17	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVN	LN	ITHE	YEG	VYEA	HKYFI
Kakuzi521	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVK	LN	ITHE	YEG	VYEA	HKYFI
Buffalo7344c1	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVK	LN	ITHE	YEG	VYEA	HKYFI
KillifKL2	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVK	LN	ITHE	YEG	VYEA	HKYFI
D409TpMariakani	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVK	LN	ITHE	YEG	VYEA	HKYFI
KillifBR305	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVK	LN	ITHE	YEG	VYEA	HKYFI
KillifKL1	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVK	LN	ITHE	YEG	VYEA	HKYFI
Zambia2	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVK	LN	ITHE	YEG	VYEA	HKYFI
Uganda	PEAPT	PTPT	ITPS	VPP	PTI	PTI	PTI	TPS	APPT	TPPT	PTGL	NFNL	TVQ	NKFM	IGSQ	EVK	LN	ITHE	YEG	VYEA	HKYFI

FIG. 17

18/20

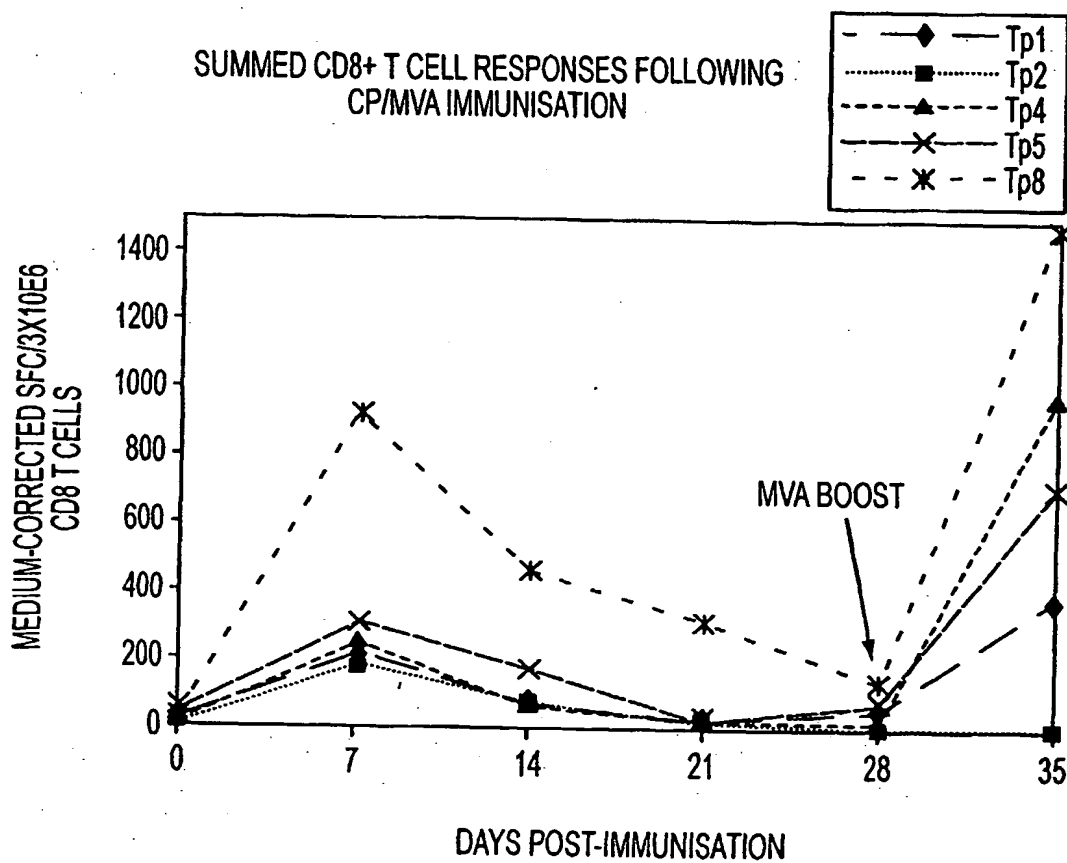


FIG. 18

19/20

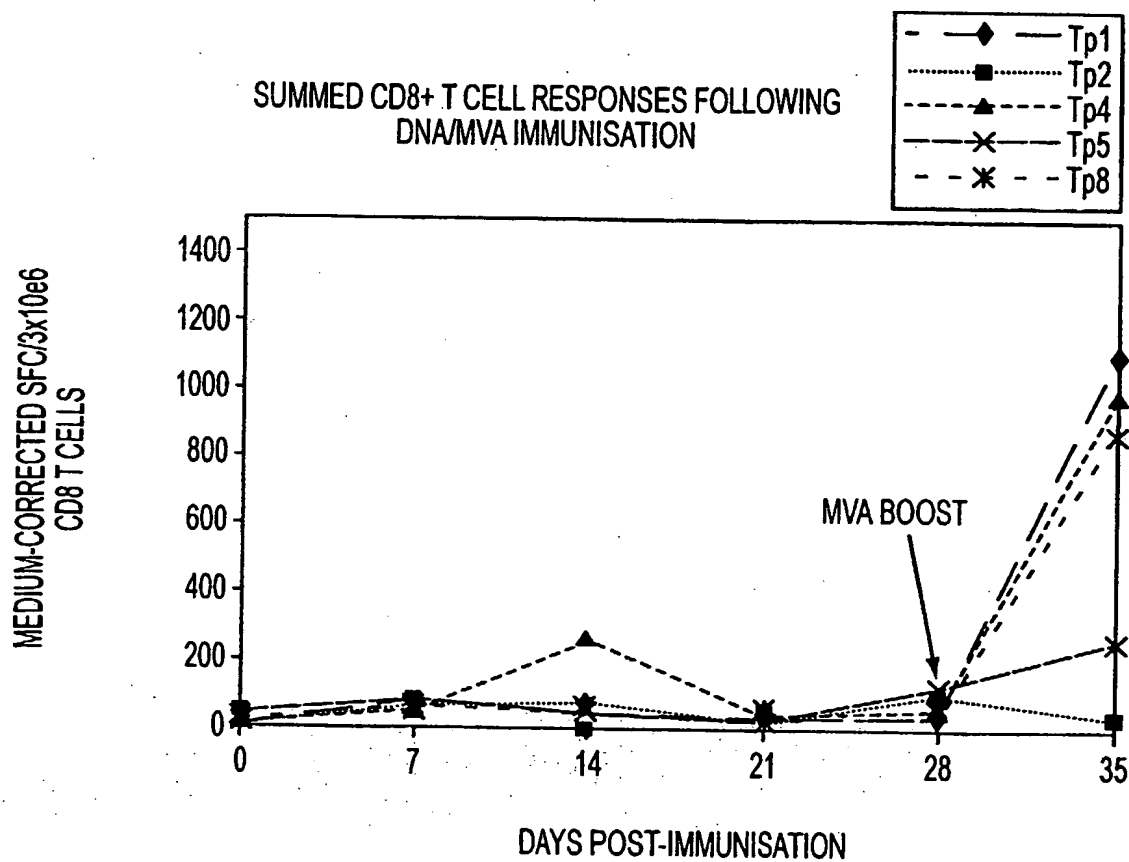


FIG. 19

20/20

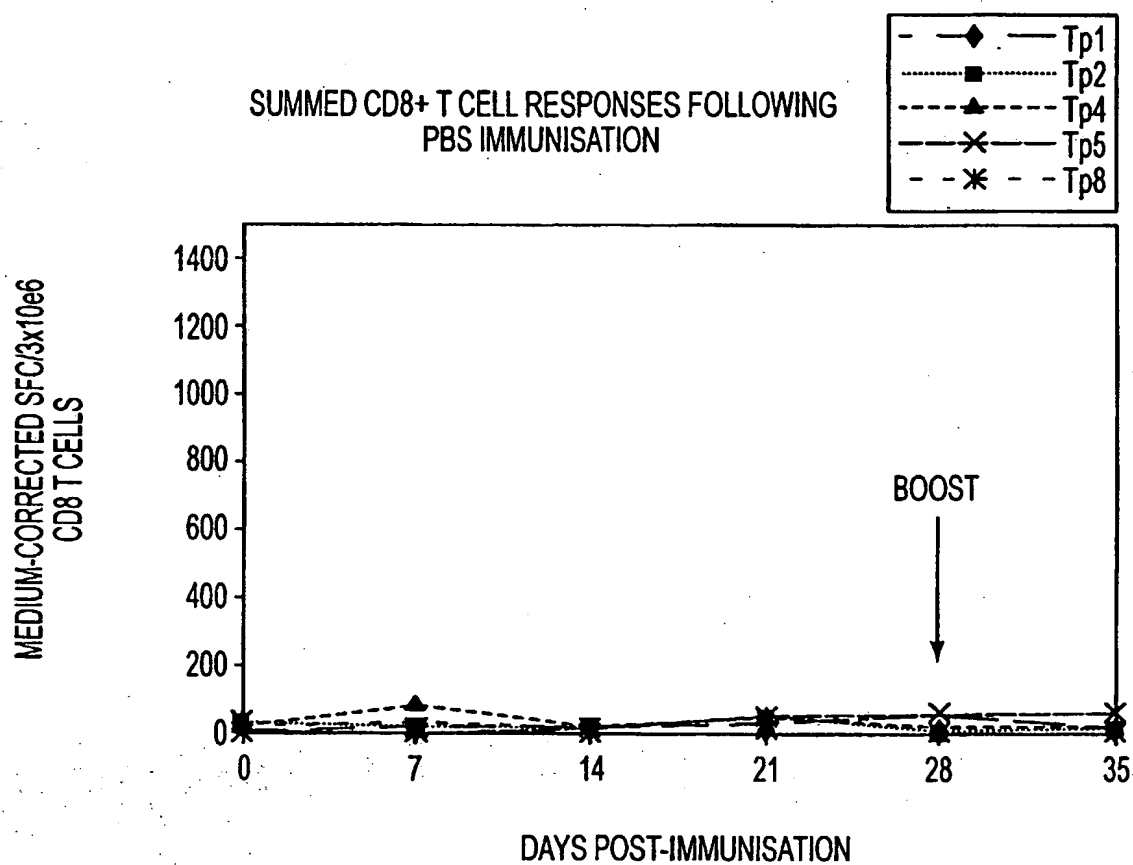


FIG. 20